

Amendments to the Claims

1. (Currently amended) A sputtering target comprising a sputtering surface, at least 99 atomic% of the sputtering surface consisting of a single phase corresponding to a solid solution of two or more elements in elemental form; each a first of the two or more elements being selected from H, Li, Na, K, Rb, Cs, Fr, V, Nb, Ta, Db, Cr, Mo, W, Sg, Fe, Ru, Os, Hs, Co, Rh, Ir, Mt, Ni, Pd, Pt, and Ds, groups 1, 5, 6, 8, 9 and 10 of the periodic table, and a second of the two or more elements being selected from H, Li, Na, K, Rb, Cs, Fr, V, Db, Cr, Sg, Fe, Hs, Co, Mt, and Ds, each of the first and second elements being present in the solid solution at a concentration of at least 0.001%, the target being configured for mounting within a physical vapor deposition apparatus.

2. (Previously presented) The sputtering target of claim 1 wherein at least 99.9 atomic% of the sputtering surface consists of the single phase.

3. (Previously presented) The sputtering target of claim 1 wherein an entirety of the sputtering surface consists of the single phase.

4. (Cancelled)

5. (Previously presented) The sputtering target of claim 1 having a total volume, and wherein at least 99 atomic% of the total volume consists of the single phase.

6. (Currently amended) The sputtering target of claim 1 ~~4~~ wherein at least 99.9 atomic% of the total volume consists of the single phase.

7. (Currently amended) The sputtering target of claim ~~1~~ 4 wherein an entirety of the total volume consists of the single phase.

8. (Currently amended) A thin film sputter-deposited over a semiconductive wafer from the sputtering target of claim 1 ~~wherein the two or more elements of the solid solution are other than a binary solution of Ta and Mo~~, the thin film comprising a single phase solid solution.

9. (Previously presented) The sputtering target of claim 1 wherein the two or more elements include at least two elements selected from group 1 of the periodic table.

10. (Withdrawn) The sputtering target of claim 1 wherein the two or more elements are selected only from group 1 of the periodic table.

11. (Withdrawn) A thin film sputter-deposited from the sputtering target of claim 10.

12. (Withdrawn) The sputtering target of claim 10 wherein the two or more elements consist of Cs and Rb.

13. (Previously presented) The sputtering target of claim 1 wherein the two or more elements include at least two elements selected from group 5 of the periodic table.

14. (Previously presented) The sputtering target of claim 1 wherein the two or more elements are selected only from group 5 of the periodic table.

15. (Previously presented) A thin film sputter-deposited from the sputtering target of claim 1 comprising a single phase solid solution.

16. (Withdrawn) The sputtering target of claim 1 wherein each of the two or more elements are selected from the group consisting of Ta, Nb, and V.

17. (Previously presented) The sputtering target of claim 1 wherein the two or more elements include at least two elements selected from group 6 of the periodic table.

18. (Withdrawn) The sputtering target of claim 1 wherein the two or more elements are selected only from group 6 of the periodic table.

19. (Withdrawn) A thin film sputter-deposited from the sputtering target of claim 18.

20. (Previously presented) The sputtering target of claim 1 wherein the two or more elements include at least two elements selected from groups 8, 9 and 10 of the periodic table.

21. (Withdrawn) The sputtering target of claim 1 wherein the two or more elements are selected only from groups 8, 9 and 10 of the periodic table.

22. (Withdrawn) A thin film sputter-deposited from the sputtering target of claim 21.

23. (Withdrawn) The sputtering target of claim 21 wherein the solution is a binary combination selected from the group consisting of Fe/Os, Fe/Ru, Co/Ir, Co/Rh, ~~Ir/Rh~~, Ni/Pd, Ni/Pt, and Co/Ni ~~and Pd/Pt~~.

24. (Previously presented) The sputtering target of claim 1 wherein the solution is Ta/Mo.

25. (Cancelled).
26. (Withdrawn) The sputtering target of claim 1 wherein the solution is Cr/Fe.
27. (Withdrawn) A sputtering component comprising a single phase solid solution comprising elemental Cu and elemental Ni.

Claims 28-41 (Canceled).

42. (Previously presented) The sputtering target of claim 1 wherein the first element is present in an amount from 0.001 atomic% to about 50 atomic%. ~~component has no single element present at an amount exceeding 95%, by weight.~~

43-44. (Cancelled).

45. (New) A sputtering target comprising a sputtering surface, at least 99 atomic% of the sputtering surface consisting of a single phase corresponding to a solid solution of two or more elements, a first of the two or more elements being selected from the group consisting of Ru, Rh, Pd, Os, Ir and Pt, and a second of the two or more elements being selected from the group consisting of H, Li, Na, K, Rb, Cs, Fr, V, Nb, Ta, Db, Cr, Mo, Sg, Fe, Hs, Co, Mt, Ni, Ds, Ti, Zr, Hf, La, Ac, Cu, Ag, and Au.

46. (New) The sputtering target of claim 45 wherein the second element is Fe, Hs, Co, Mt, Ni or Ds.